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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,465	03/24/2004	Guenther H. Ruhe	003-57	2920

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EXAMINER
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WANG, BEN C

ART UNIT	PAPER NUMBER
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2192

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05/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/807,465	Applicant(s) RUHE, GUENTHER H.	
	Examiner Ben C. Wang	Art Unit 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/01/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-22 are pending in this application and presented for examination.

***Drawing Objections***

2. The drawing is objected to because the following informalities:
  - The 2<sup>nd</sup> label of "132" pointed to "Order Management" and 3<sup>rd</sup> label of "132" pointed to "Billings", cited in Fig. 13, should be corrected as the label of "134" and the label of "136" respectively
  - The label of "145, cited in Fig. 14, should be corrected to point to the element of "orders"

Appropriate correction is required.

***Claim Objections***

The claim is objected to because the following informalities:

3. Claims 19-20 are objected to because the following informalities:
  - "where different use cases are predefined", cited in claim 19, line 1, should be corrected as "where different use cases are predefined."
  - "A method of claim 21", cited in claim 20, line 1, should be corrected as "A method of claim 1"

Appropriate correction is required.

***Claim Rejections – 35 USC § 102(a)***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(a) that form the basis for the rejections under this section made in this office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-3 and 8-20 are rejected under 35 U.S.C. 102(a) as being anticipated by G. Ruhe/D. Greer (*Quantitative Studies in Software Release Planning Under Risk Resource Constraints*, Oct., 2003, *IEEE*) (hereinafter 'Ruhe-Greer').

5. **As to claim 1**, Ruhe-Greer discloses a method of release planning, the method comprising the steps of: assigning stakeholder priorities to a set of requirements, where the priorities are assigned by plural stakeholders (Sec. 1, 4<sup>th</sup> Para., Lines 6-7; Sec. 2.1, 1<sup>st</sup> Para., Lines 7-11); explicitly defining a set of constraints on the requirements (Sec. 1, 4<sup>th</sup> Para., Lines 10-16, 6<sup>th</sup> Para., Lines 1-10; Sec. 2, 1<sup>st</sup> Para., Lines 1-4; Sec. 2.3); using algorithms carried out by a computer (Sec. 1, 5<sup>th</sup> Para., Lines 5-10, 6<sup>th</sup> Para., Lines 1-10; Sec. 3.2, 1<sup>st</sup> Para., Lines 1-4), exploring release plan solutions that satisfy the constraints and balance between stakeholder priorities of different stakeholders to generate a set of candidate release plan solutions that have a positive impact on at least one of project time, overall cost and quality (Sec. 2.6; Fig. 1 – EVOLVE+ approach to

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assign requirements to increments; Sec. 3.1, 1<sup>st</sup> Para., 2<sup>nd</sup> Para.); and selecting at least one release plan solution from the set of candidate release plan solutions (Sec. 1, 6<sup>th</sup> Para., Lines 1-10).

6. **As to claim 2** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which operating on the stakeholder priorities with algorithms using a computer is carried out repeatedly after changing one or more of the constraints, requirements or stakeholder priorities (Sec. 3.1, 4<sup>th</sup> Para., 5<sup>th</sup> Para.).

7. **As to claim 3** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which a set of release plan solutions is generated and the solution set is further qualified by applying a concordance/non-discordance principle (Sec. 2.6, 3<sup>rd</sup> Para.).

8. **As to claim 8** (incorporating the rejection in claim 2), Ruhe-Greer discloses the method in which changing the requirements comprises actions from a group consisting of: adding additional requirements (Sec. 1, 3<sup>rd</sup> Para., Lines 1-19); removing existing requirements (Sec. 1, 4<sup>th</sup> Para., Lines 10-16); modifying existing requirements (Sec. 2.2, 1<sup>st</sup> Para., Lines 5-7); and adjusting stakeholder priorities (Sec. 2.1, 1<sup>st</sup> Para., Lines 7-11).

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9. **As to claim 9** (incorporating the rejection in claim 2), Ruhe-Greer discloses the method further comprising the step of assigning the requirements to one of the next release, the next but one release, or unassigned (Sec. 1, 3<sup>rd</sup> Para., Lines 1-19, 4<sup>th</sup> Para., Lines 10-16).

10. **As to claim 10** (incorporating the rejection in claim 9), Ruhe-Greer discloses the method in which repeating the step of operating on the stakeholder priorities or value estimates with the algorithms comprises using the unassigned requirements as the requirements in the repeated step (Sec. 3.1, 1<sup>st</sup> Para.; Sec. 4.1, 6<sup>th</sup> Para.).

11. **As to claim 11** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which selecting a release plan solution from the set of candidate release plan solutions is carried out by a problem solver (Sec. 1, 2<sup>nd</sup> Para., Lines 10-14).

12. **As to claim 12** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which the method is carried out through a hybrid approach integrating computational intelligence and human intelligence (Sec. 1, 2<sup>nd</sup> Para., Lines 10-14).

13. **As to claim 13** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which the set of constraints is chosen from a group

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consisting of precedence relationships between requirements, coupling relationships between requirements, effort, resource, budget, risk, and time (Sec. 2, 1<sup>st</sup> Para., Lines 1-4).

14. **As to claim 14** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which stakeholder priorities are represented by a numerical value representing stakeholder satisfaction that a requirement be assigned to one of three categories, the categories consisting of the next release, the next but one release, and postponed (Sec. 2.1, 2<sup>nd</sup> Para. through 4<sup>th</sup> Para.).

15. **As to claim 15** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which the requirements are grouped into groups of requirements (Sec. 1, 4<sup>th</sup> Para., Lines 6-7, 12-14) and the algorithms balance between stakeholder priorities assigned to the groups of requirements (Sec. 5, 4<sup>th</sup> Para.).

16. **As to claim 16** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method in which stakeholders prioritize subsets of the complete set of requirements (Sec. 2.6, 3<sup>rd</sup> Para.).

17. **As to claim 17** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method further comprising providing on demand an answer to questions chosen from a group of questions consisting of: why requirements are

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assigned to a certain release (Sec. 1, 4<sup>th</sup> Para., Lines 12-14); why requirements are not assigned to a certain release (Sec. 1, 4<sup>th</sup> Para., Lines 14-16); which are commonalities in the proposed solutions; and which are differences in the proposed solutions (Sec. 3.2, 1<sup>st</sup> Para.).

18. **As to claim 18** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method where a set of near optimal and maximally distinct alternative release plan solutions is generated (Abstract, Lines 26-32; Sec. 2.5, 2<sup>nd</sup> Para., 3<sup>rd</sup> Para.).

19. **As to claim 19** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method where different use cases are predefined (Sec. 5, 2<sup>nd</sup> Para., Lines 4-13).

20. **As to claim 20** (incorporating the rejection in claim 1), Ruhe-Greer discloses the method where process guidance is provided to perform the scenario use cases (Abstract, Lines 7-32).

### ***Claim Rejections – 35 USC § 103(a)***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject



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matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhe-Greer in view of D. Greer/G. Ruhe (*Software Release Planning: an evolutionary and iterative approach*, July, 2003, Elsevier B. V.) (hereinafter 'Greer-Ruhe')

22. **As to claim 4** (incorporating the rejection in claim 3), Ruhe-Greer discloses the method in which the algorithms comprise one or more of genetic algorithms (Sec. 1, 5<sup>th</sup> Para., Lines 5-10) and integer programming algorithms (Sec. 4.4.2, 2<sup>nd</sup> Para., Lines 1-4).

But Ruhe-Greer does not explicitly disclose heuristic algorithms.

However, in an analogous art of software release planning: an evolutionary and iterative approach, Greer-Ruhe discloses heuristic algorithms (References, [19]).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Greer-Ruhe into the Ruhe-Greer's system to further provide heuristic algorithms in Ruhe-Greer system.

The motivation is that it would further enhance the Ruhe-Greer's system by taking, advancing and/or incorporating Greer-Ruhe system which offers significant advantages for using *Palisade's RiskOptimizer™* tool for ranking

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requirements as once suggested by Greer-Ruhe (i.e., Sec. 3.3 of "Algorithms and tool support", 1<sup>st</sup> Para.;).

23. **As to claim 5** (incorporating the rejection in claim 4), Ruhe-Greer discloses the method in which the algorithms use at least one objective function to evaluate release plan solutions (Sec. 3.1, 2<sup>nd</sup> Para.).

**As to claim 6** (incorporating the rejection in claim 5), Ruhe-Greer discloses the method in which the objective function comprises an aggregation of stakeholder priorities or value estimates. (Sec. 2.6, items (1) – (6); Sec. 3.1, 2<sup>nd</sup> Para.).

24. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhe-Greer in view of Greer-Ruhe and further in view of J. Li/G. Ruhe (*Web-Based Decision Support for Software Release Planning, Oct., 2003, WSS 2003*) (hereinafter 'Li-Ruhe').

25. **As to claim 7** (incorporating the rejection in claim 6), Ruhe-Greer discloses the method in which computation of the algorithms is carried out externally from an application service provider (Sec. 3.2, 1<sup>st</sup> Para., Lines 1-4).

But Ruhe-Greer and Greer-Ruhe do not explicitly disclose stakeholder priorities are input to the computer from remote locations.

However, in an analogous art of web-based decision support for software release planning, Li-Ruhe discloses stakeholder priorities are input to the

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computer from remote locations (Fig. 3 – Architectural Design for Web-based DSS for Release Planning; Sec. 1, 3<sup>rd</sup> Para.; Sec. 2, 5<sup>th</sup> Para., Bullet #2 – Stakeholder involvement, Lines 17-19; Sec. 4, R4 and R5).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Li-Ruhe into the Ruhe-Greer-Greer-Ruhe's system to further provide stakeholder priorities are input to the computer from remote locations in Ruhe-Greer-Greer-Ruhe system.

The motivation is that it would further enhance the Ruhe-Greer-Greer-Ruhe's system by taking, advancing and/or incorporating Li-Ruhe's system which offers significant advantages for using web technology and services on intelligent decision support for software release planning as once suggested by Li-Ruhe (i.e., Abstract).

26. Claim 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhe-Greer in view of Li-Ruhe.

27. **As to claim 21** (incorporating the rejection in claim 1), Ruhe-Greer does not explicitly disclose a computer programmed to carry out the method steps of claim 1.

However, in an analogous art of web-based decision support for software release planning, Li-Ruhe discloses a computer programmed to carry out the method steps of claim 1 (Sec. 2, 5<sup>th</sup> Para., 6<sup>th</sup> Para.).

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Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Li-Ruhe into the Ruhe-Greer's system to further provide a computer programmed to carry out the method steps of claim 1 in Ruhe-Greer system.

The motivation is that it would further enhance the Ruhe-Greer's system by taking, advancing and/or incorporating Li-Ruhe's system which offers significant advantages for using web technology and services on intelligent decision support for software release planning as once suggested by Li-Ruhe (i.e., Abstract).

28. **As to claim 22** (incorporating the rejection in claim 1), Ruhe-Greer does not explicitly disclose computer readable media containing instructions for a computer to carry out the method steps of claim 1.

However, in an analogous art of web-based decision support for software release planning, Li-Ruhe discloses computer readable media containing instructions for a computer to carry out the method steps of claim 1 (Sec. 2, 5<sup>th</sup> Para., 6<sup>th</sup> Para.).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Li-Ruhe into the Ruhe-Greer's system to further provide computer readable media containing instructions for a computer to carry out the method steps of claim 1 in Ruhe-Greer system.

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The motivation is that it would further enhance the Ruhe-Greer's system by taking, advancing and/or incorporating Li-Ruhe's system which offers significant advantages for using web technology and services on intelligent decision support for software release planning as once suggested by Li-Ruhe (i.e., Abstract).

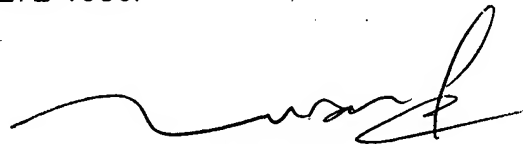
### ***Conclusion***

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben C. Wang whose telephone number is 571-270-1240. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



TUAN DAM  
SUPERVISORY PATENT EXAMINER

BCW 

April 25, 2007